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Original Communications.

A NEW RULE FOR DOSES.

By E. H. Clarke, M.D.

The doses, given in works on materia medica for the administration of medicines, are intended for adults of average health and strength. These average doses are, of course, varied by the physician, when prescribing, so as to suit differences of age, disease, sex, temperament, idiosyncrasy and the like. Of the various modifying circumstances that affect the dose, age has always been recognized as the most important, as it is the most obvious one. Several schemes or rules, intended to aid the memory in apportioning doses to different ages, have been proposed. Two are commonly referred to as the best. Both of them are familiar, and both may be found in the United States Dispensatory.

The first is the table of Gaubius, according to which the dose of an adult being 1, or 1 drachm, that of a person from

14 to 21 years will be $\frac{2}{3}$ or 2 scruples.
7 to 14 " " " $\frac{1}{2}$ or $\frac{1}{2}$ drachm.
4 to 7 " " " $\frac{1}{3}$ or 1 scruple.
At 4 years old, the dose will be $\frac{1}{4}$ or 15 grs.
At 3 " " " " " " $\frac{1}{6}$ or 10 grs.
At 2 " " " " " " $\frac{1}{8}$ or 8 grs.
At 1 " " " " " " $\frac{1}{12}$ or 5 grs.

Dr. Young's rule, extracted from the Pharmacologia of Dr. Paris, is generally preferred, on account of its simplicity, to the table of Gaubius. It is this :—" for children under 12 years, the dose of most medicines must be diminished in the proportion of the age to the age increased by twelve; thus at 2 years to $\frac{1}{7}$: viz., $\frac{2}{2+12}=\frac{1}{7}$. At 21 the full dose may be given."

Physiological experiment has shown that the weight of animals is not only as important an element in apportioning doses of drugs as age, but is probably a more important one than that. Thus, Dr. Fraser, of Edinburgh, in his recent admirable monograph on Physostigmia and Atropia, has shown that the minimum lethal dose of sulphate of physostigmia for rabbits is 0·04 grain for every pound. M. Claude Bernard has called attention to the fact that in physiological experiments with drugs on animals, the dose should vary with the weight of the animal. Clinical observation shows that men in this respect are not unlike other animals; and that in the administration of remedies the dose should vary with the weight of the patient, in order to obtain the best therapeutical result. Guided by this principle, it is easy to give a rule for doses that is more exact and more easily remembered than the table of Gaubius or the equation of Dr. Young.

Assuming the average weight of an adult to be one hundred and fifty pounds, for whom an appropriate dose is 1 or 1 drachm, the dose of most medicines must be increased or diminished in the proportion of the weight of the patient to that number of pounds. This proportion is represented by a fraction, whose numerator is the patient's weight and whose denominator is 150. If a child at birth weighs six pounds, the appropriate dose for it would be $\frac{6}{150}$ or $\frac{1}{25}$; if it weighs ten pounds, $\frac{10}{150}$ or $\frac{1}{15}$. A child 2 years old, weighing twenty pounds, would require $\frac{20}{150}$ or about $\frac{1}{7}$ of an adult dose; or, more precisely, $\frac{1}{7\frac{1}{2}}$, which is exactly half way between the quantity indicated by the table of Gaubius for a child two years old and that indicated by Dr. Young's scheme for the same age. A person whose weight is two hundred pounds should have $\frac{200}{150}$ or $1\frac{1}{3}$ of an average adult dose. A child 12 years old, weighing 75 pounds, would require $\frac{75}{150}$ or $\frac{1}{2}$ of an average dose.

The modifications of the average dose, demanded by a patient's idiosyncrasy, disease and other conditions than age or weight, are not, of course, met by the above rule.

Boston, August, 1872.

MEDICATION IN INSANITY.

Read at a Meeting of the Norfolk (Mass.) District Medical Society, July 10th, 1872.

By SILAS E. STONE, M.D. Harv.

A PASSAGE in Dodoneus's History of Plants, which I examined a few days ago as a curiosity in botanical literature, has suggested some thoughts on the subject for to-day.

Writing of the common feverfew, he says of the virtues of the plant:—"Feverfew dried and made into powder and two drammes of it taken with honey, or other thing, purgeth by siege melancholy and phlegm; wherefore it is very good . . . . for melancholic people and such as be sad and pensive and without speech."

Here was a person distinguished for learning, holding appointments as physician to two emperors, and professor of physic to the renowned University of Leyden, recommending as a cure for melancholy or dementia a plant of little or no activity.

In our day the esteem in which purely medical treatment is held in this class of cases may be in some measure judged from the space given to its consideration in modern works on mental diseases.

Griesinger, in his Mental Pathology and Therapeutics, gives less than twelve pages to the purely medical treatment of the insane. Maudsley disposes of this subject, including bloodletting, baths and counter-irritation, in less than eight pages, while Winslow, in his work on Obscure Diseases of the Brain and Mind—which occupies 706 pages—finds five pages sufficient for the therapeutics of insanity.

Does this indicate that, like Macbeth's physician, when asked—

> "Canst thou not minister to a mind diseased?"

we must reply,

> "Therein the patient
> Must minister unto himself"?

Rather does it not imply that our treatment will consist of something besides that "sweet, oblivious antidote" he was called upon to administer, and that dosing will form a very small part of it.

The practice of surgery has been no more simplified from the complexity and confusion of former times than the practice of psychological medicine, and between these two branches some striking analogies exist.

A man meets with some accident, a fracture, for example; he is obliged to keep his bed and have splints applied. He is rendered helpless and dependent on others, though his general health may not be seriously affected. Should severe pain or muscular spasm occur, his sufferings may be diminished and his strength saved by judicious medication.

In acute mania, such as may follow some great mental shock, the room and seclusion are the bed and splint. The patient wholly depends on the care of his attendant, though muscular power and digestion may be unimpaired. Spasmodic bursts of excitement and loss of sleep are likely to occur, and after recovery he may be left crippled and disabled in his mind. Both often depend on drugs for the needed sleep which nature refuses, while, if the strength of the constitution of either is tried, he must be supported by stimulants and concentrated nourishment. Formerly, bleeding and purging, with, perhaps, emetics, were considered essential at the outset, but in both cases these have been found to disturb the patient without any corresponding good results.

Medication, in order to be effective, must modify the function or structure of the organ to which it is addressed, and consequently our treatment will largely depend on our understanding of the nature of the disease.

If, like the voice and digestion, the mind is a complex function, depending on the activity of its proper organ, then its disorders can be rationally addressed by those remedies which affect the brain; and such have always proved to be the most efficacious.

Mental disease, then, is to be regarded as cerebral disease, functional or organic. And thus we bring it into the catalogue of other diseases of the body, which are all governed by the same vital laws, and are, therefore, to be treated on the same general principles.

A slight acquaintance with maniacal affections will show that we find among them the same variety observed in ordinary practice.

Here we shall find both acute and chronic affections; the self-limited and the incurable; those whose termination may be expected in a few days, or others which may drag their slow course through months, years even, and then end in permanent recovery. Instead of the violent practice of blistering, purging, bleeding and showering, which formerly prevailed, and which was preceded by exorcism even more unphilosophical, a more accurate knowledge of mental disease has, as in other departments of practice, led to more rational views of treatment; in illustration of which nothing can be plainer than such statements as the following, from Griesinger. Speaking of treatment, he says:—

"In mental, as in other diseases, the simple expectant and dietetic—which is far from meriting the absurd reproach of the do-nothing—is, in many cases, though not in all, far in advance of the employment of very active and often changed remedies. To how small an extent their recovery is, properly speaking, due to direct medicinal interference is seen from the similarity of statistics furnished by various asylums where the methods of treatment are essentially different."

And, again, "observation shows that very many cases of recent disease (insanity) proceed spontaneously to recovery without much positive interference through a treatment limited to the warding off of all injurious influences."

If our drugs alter the structure or function of an organ, then they may do harm as well as good, and this we should always bear in mind, but we should not discard them on that account, any more than the surgeon would the knife because in the hand of some ignorant or inexperienced person it has proved an injury where it was designed to benefit. This, it seems to me, is especially to be guarded against in treating so delicate an organ as the brain.

If a case of acute melancholy with excitement comes under our care, let us not send it away with the opium habit substituted for it, nor make our epileptic pay the price of bromide-dementia for the relief from occasional convulsions.

The small proportion which insanity bears to ordinary sickness, and the limited number of even these cases that can be successfully treated in their own homes, will place most of this class of cases in the hands of those who adopt this special department of practice; but, though we may but seldom be called upon to conduct a case of insanity through its whole course, we should remember that mental disease is cerebral disease, that the medication of the insane is to be conducted on the same principles as in other cases, and just as much good and no more is to be expected from the exhibition of drugs in this class of cases as in others; that any drug capable of doing good may do harm; that we should not on that account be timid or hesitating, but if the indication is plain, and experience has shown the utility, we should give our patient, whether insane or sane, the benefit of decided treatment. But above all let it be borne in mind that it is very seldom that dosing is the most important part of treatment, and that often it need form but a slight and inconsiderable part of it.

Walpole, July, 1872.

Progress in Medicine.

REPORT ON THERAPEUTICS.

By Robert T. Edes, M.D. Harv.

(Concluded from page 99.)

Apomorphia is an artificial alkaloid formed by heating morphia in a closed tube with hydrochloric acid. Since its discovery by Matthiesen and Wright it has been recognized as a powerful emetic.

Siebert and Riegel and Böhm (*Centralblatt*, 1872, p. 155) report the result of some experiments thereon. Its chief advantage as an emetic is its easy and painless subcutaneous application, for which purpose it (the hydrochlorate of apomorphia) may be dissolved in water in the proportion of 1 to 100.

Vomiting seems to be preceded and accompanied by præcordial distress, affection of the head and noticeable weakness, but the return to the normal condition is very rapid and complete. Objective changes in the organism are even less. The subcutaneous injection causes little smarting, scarcely any pain, and does not result in abscess. Digestive disturbances have not been observed. The emetic dose for man is about one-tenth of a grain. A maximum dose does not seem to exist, as an increase of the effectual dose one hundredfold in animals and threefold in man produced no increase of symptoms.

The dose must be very greatly increased if given by the stomach. The English preparation seems to be several times more powerful than the German (Merck's). The purer and more active the drug and the more promptly and freely emesis set in, so much the less troublesome appeared the disagreeable subjective concomitants. Morphia does not prevent the action of apomorphia, but seems to render a larger dose necessary.

Blaser (*Cbl.*, 1872, p. 480) says a solution of hydrochlorate of apomorphia in simple syrup, if kept from the air, may be preserved unchanged for weeks. A more dilute solution, with sugar, prevents decomposition.

The English apomorphia is the only preparation which forms a completely colorless solution in water.

Atropia.—Frazer (*Trans. Roy. Soc. Edinburgh*, 1872, xxvi.; *Cbl.*, 1872, p. 395) has made a series of experiments upon the antagonism of atropia and physostigmia (calabar bean). He employed an alcoholic extract and a sulphate of physostigmia prepared by himself, and injected subcutaneously.

The smallest fatal dose of each preparation was determined for a given weight of the animals used for experiment; when an animal was kept alive by the combined action of at least this minimum dose of physostigmia united with atropia, and after perfect return to health (ten or eleven days), the animal was killed by the same or a smaller dose of physostigmia. If atropia was injected a few moments before the physostigmia, the symptoms were of a mixed character—dilated pupil, increased frequency of pulse and respiration (atropia); universal paralysis, twitching of muscles, loose discharges, increased secretion of mucus and saliva (physostigmia). In from one to one and a half hours, the symptoms began to yield; in twenty-four, the animal was fully restored, but the pupils and pulse did not return to their normal condition for five days. The symptoms were essentially the same if the physostigmia were administered at the same time or very shortly before the atropia; but those from physostigmia were always the most troublesome in the beginning, while those from atropia were the most enduring. Fraser supposes that this antagonism holds good for the higher animals.

This antagonism is not absolute; there are doses of atropia which cannot fully antagonize physostigmia, and also such as cannot be antagonized by it.

Digitalis.—Böhm (*Pflüger's Archiv*, 4 and 5 Heft, 1871; *Cbl.*, 1872, p. 219) has re-investigated the complicated subject of the action of digitalis. We have space only for his most important conclusions. Digitalin brings the inhibitory nerve centres situated in the heart into a condition of increased excitability. It has a peculiar specific action upon the heart-muscle itself, in the first stage strengthening its contractions, in the second making them irregular, and in the third bringing it to a condition of peculiar rigidity or tetanus. He thinks that the digitalin does not cause a contraction of the arterioles, but that the increased pressure in the arteries is due to the increased force of each pulsation of the heart.

Antimony.—Radziejewski (*Reichert and DuBois Reymond's Archiv* and *Cbl*, 1872, p. 278) finds that the principal symptoms to be remarked upon poisoning frogs with tartar emetic administered subcutaneously, are depression and paralysis of the heart's activity after a short initial increase, and also a disappearance of reflex irritability. The heart, remaining in diastole, does not react to stimuli which are still capable of causing contraction in other muscles. The abolition of reflex activity is due to an action upon the spinal cord.

In rabbits, comparatively smaller doses produce similar symptoms, besides a diarrhœa due to extravasations in the stomach and hyperæmia in the intestinal tract.

He does not agree to the theory that the cardiac and reflex depressant action of tartar emetic is due to the potassa contained therein, since these effects are produced by doses of tartar emetic far smaller than are required of other salts containing a much larger amount of potassa. Also, the same phenomena were produced by the chloride of antimony dissolved in tartaric acid. He thinks, contrary to the usual opinion, that the emetic action of antimonial preparations is due to a local action upon the stomach, as in two cases of the therapeutic application of tartar emetic he was able to determine that the larger part of the drug had not been absorbed. This view is also supported by the fact that much larger doses are needed to produce vomiting when injected into the blood than when given by the stomach.

While the action of antimony upon the heart, and especially upon the reflex excitability, is entirely similar to that of arsenic, it differs therefrom in this, that also its (antimony's) combination with alcoholic radicals show the same action; while, on the contrary, in the arsenical methyl and ethyl combinations the metallic action falls into the background.

Strychnia.—Mayer (*Cbl.*, 1872, p. 270) has experimented upon animals with a view to determining the influence of strychnia upon the vaso-motor nervous system. The animals were poisoned with woorara, and kept alive by artificial respiration.* Under these circumstances, the blood pressure in the veins rose upon the administration of strychnia without the frequency of the pulse being changed. Mayer attributes this rise to a tetanic contraction of the smaller vessels, which can, indeed, be directly observed in the mesentery; and since this rise is either very small or none at all after section of the spinal cord below the medulla oblongata, it probably takes place from excitation of the vaso-motor centres.

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* Woorara, by paralyzing the motor nerves, prevents the action of strychnia upon the voluntary muscles, but it is not a physiological antidote, and its own poisonous effects are fatal unless artificial respiration is used. It does not affect the vaso-motor nerves until a much later period than that at which the nerves of voluntary muscles are fully paralyzed.—E.

Upon curarized animals a slowing of the pulse was sometimes observed, so that it is probable the increase of frequency seen in some cases when the animal is not curarized is due to the general tetanus.

Carbolic Acid.—In frogs 0.2 or 0.3 gram. (3 to 4½ grains) of a concentrated solution of carbolic acid injected under the skin or into the stomach cause, first, pain and retching (Salkowski, *Pfluger's Archiv* 1872, v., *Cbl.* 1872, p. 379). After three or four minutes, the animal begins to collapse and falls into a condition of sopor. Then follows twitching of the extremities, reflex excitability is increased, but voluntary motions become weaker. Finally, more violent spasms occur, as after strychnia poisoning. This condition continues, diminishing in intensity, till death, which takes place, usually, in twenty-four hours. The muscles and nerves have lost a portion of their irritability, probably from fatigue; the heart usually makes some sluggish pulsations. Local congestion appears at the point where the poison was introduced. The blood is thin; urine clear without albumen. The action upon the nervous system consists in an increased excitability of the spinal cord.

The influence upon the heart is shown in a gradual diminution in frequency, sometimes after a temporary acceleration, and in a decrease of strength.

Poisoning in rabbits begins with fibrillar twitchings which, after some moments, pass into a general trembling. The animal becomes restless, the respiration is accelerated, convulsive shocks follow, and, finally, violent, clonic spasms occur, accompanied by flow of saliva and dilatation of the pupils. The ears are pale, bluish red, cool; the respiration rapid. Sensibility is retained, since the animals seek to avoid pinching of the skin. With medium doses, death occurs in two or three hours with tonic and clonic convulsions, but the animals often survive this condition without subsequent trouble.

Upon dissection, immediately after death, the heart is found actively pulsating, the muscles and nerves excitable. Further than this, nothing is found except the local effects, which vary with the degree of concentration at which the poison is administered. The smell of carbolic acid was not to be recognized except at the place of application. The principal difference in the symptoms between frogs and rabbits is the absence in the latter of a paralytic stage.

The same writer reports some cases in man in which, after a dessert-spoonful-dose of a 1½ to 200 solution every two hours, a slight diminution in the frequency of the pulse was observed.

For determining the presence of carbolic acid in urine, it was distilled with tartaric acid, the distillate shaken with ether, the æthereal solution re-distilled, the portion remaining dissolved in water, and used to obtain the reaction, which consists in the addition of ammonia and some drops of a solution of chloride of calcium, these producing a blue color, even in very dilute solutions.

Carbolic acid was detected, by this test, in the urine after both internal and external use. It seems to be combined with an alkali in the urine, as the experiment fails unless an acid is added. The dark color of the urine, after using carbolic acid, especially externally, ranges from olive green to dark brown, but not in direct proportion to the amount of acid present, so that a dark colored urine is no indication for discontinuing its use. As the amount of carbolic acid found in the urine is small, examinations were made to determine whether products of its oxidation were present in the body. Oxalic acid, which may be produced by the action of permanganate of potassa upon carbolic acid, was suspected and found in the blood of two rabbits out of three who had taken carbolic acid, though only in small doses.

Bert and Jolyet (*Gaz. Medicale,* 1872) distinguish two* kinds of death from carbolic acid. First, that which takes place almost instantaneously from paralysis of the heart after very large doses or rapid injection into the veins, or more slowly, in consequence of the convulsions, which last for hours. Second, that which occurs a longer time, perhaps several days after the poisoning. Dissection shows that in these cases the animal has died from a lobar pneumonia or pleuro-pneumonia, probably produced by the exhaled acid. They were not able, however, to produce this affection or any kind of poisoning by the inhalation of carbolic acid vapors. In these prolonged cases, a purulent kerato-conjunctivitis without loss of sensibility of the cornea was not infrequently observed.

Occasionally, animals supported considerable doses for several months without serious attacks. The authors have before proved that the toxic principles of woorara and strychnia solutions can be precipitated by small doses of carbolic acid, even in decomposed blood, but it is impossible, according to their experiments, to found upon this fact a treatment for such poisoning when the poison and carbolic acid are given separately.

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* There seems, from the description, to be three.—E.

Sansom (*Beale's Archives*, vol. v. No. 17; *Cbl.* 1872, p. 383) recommends the sulpho-carbolates, especially that of soda, for internal use in zymotic diseases. The sulpho-carbolate of soda may be given internally in doses of 15–30–60 grains every three or four hours. The only unpleasant symptom from a dose of 60 grains was an inclination to dizziness. In the urine of a patient who had taken six drachms in the previous twenty-four hours, a considerable quantity of sulphate of soda was found, but no carbolic acid. The easily soluble lime salt is to be used only when there are indications for the introduction of lime into the system. The zinc and copper salts are suitable for external application.

Weiske (*Centralblatt*, 1871, p. 615; and 1872 p. 174) has made experiments on three goats which were fed for several weeks on hay washed with muriatic acid, sugar, casein and starch, one of them having in addition twelve grammes *phosphate of soda* and another twenty grammes of *chalk*. On analysis of corresponding bones, it was found that about the same amount of chalk, magnesia and phosphoric acid was found in all three.

Xylol.—Burkart (*Cbl.* 1872, p. 368) finds that xylol is of use in smallpox in so far that it diminishes the eruption of pustules in the throat and consequently the angina, so that the patients can swallow, at least, fluids. It is also a deodorizer. No other effect could be observed.

Phosphorus.—Köhler (*Centralblatt*, 1872, p. 476) gives the results of experiments made under his direction, in which oil of turpentine (not the chemically pure, but the commercial as containing more oxygen) was administered to animals poisoned by phosphorus. In ten experiments on rabbits and seven on dogs, he saved all the latter and three of the former, after doses of phosphorus which would otherwise have been undoubtedly fatal. The longest time after taking the phosphorus at which a favorable action of this antidote has been observed in man is eleven hours. Turpentine is supposed to act by forming in the intestinal canal with phosphorus a new crystalline compound, which is harmless and need not even be evacuated by an emetic, but is absorbed and eliminated unchanged by the urine. The turpentine may be given in excess without fear, and may be administered in capsules or by the stomach-pump.

Bamberger (*Wien. Med. Presse*, 1872, and *Cbl.*, 1872, p. 188) thinks that neither the clinical nor experimental facts justify the reputation of turpentine. Turpentine dissolves phosphorus and hastens its evaporation. The hypothesis of Köhler, just mentioned, he considers highly improbable. The compound spoken of only forms after several hours at a temperature of 30° R. (99½° F.).

The most rational treatment of phosphorus poisoning is by the soluble salts of copper. If the sulphate acts too rapidly as an emetic, the carbonate may be used, and afterwards dissolved slowly by acetic acid.*

Bibliographical Notices.

An Experimental Research on the Antagonism between the Action of Physostigmia and Atropia. By Thomas B. Fraser, M.D., Lecturer on Materia Medica and Therapeutics, at Surgeon's Hall, Edinburgh. From the Transactions of the Royal Society of Edinburgh, vol. xxvi., pp. 184, with plates. Edinburgh, 1872.

This monograph is an admirable illustration of recent methods of research undertaken for the purpose of determining the exact actions of drugs on men and animals. It is equally an admirable illustration of the legitimate use of experiments on living animals by which knowledge, important to human life and comfort, is obtained, that can be obtained in no other way. The empiricism of the past has left a rich legacy of clinical observation to the medical science of to-day; but in the long journey of the race, from Hippocrates to the nineteenth century, only scraps of exact knowledge of the modus operandi of drugs have been picked up. It will be the duty of the science of the future to supply this deficiency, and to build up, with slow and patient labor, an indestructible basis of exact knowledge, into which the precise relation of drugs to healthy and diseased structures and functions shall largely enter. In the performance of this task, science will derive a large amount of valuable assistance from the lower animals, from comparative experiment. Dr. Fraser, by his recent research into the mutual relations of physostigmia and atropia, has shown us how much can be done in this way; and in doing so, has made a valuable contribution to scientific medicine.

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* Writers of papers on therapeutics will greatly aid in the preparation of these semi-annual reports if they will forward copies of their contributions, addressed to this Journal.—Eds,

The antagonism of the physiological action of drugs has long been suspected, but never proved till recently. Medical journals of the past few years have made us familiar with the real or supposed antagonism of opium and belladonna. Dr. Norris tells us, in an excellent article upon the subject, that three centuries ago, in the year 1570, opium was given to remedy the ill effects of belladonna. Dr. Harley, in his late book on the Old Vegetable Neurotics, has shown that, though this antagonism exists, it is partial, not general, and cannot be relied on in the treatment of poisoning by either of these drugs. Antagonism has been suspected, and to some extent proved between the actions of atropia and Prussic acid; between those of strychnia and curara; of strychnia and bromide of potassium; of strychnia and chloroform; but in none of these instances has the extent and character of the antagonism been demonstrated. Dr. Fraser's laborious researches have shown that, between atropia and physostigmia, "the reality of a lethal antagonism may be readily and certainly established by experiment."

Rabbits and dogs, chiefly the former, were the subjects of the observer's experiments. The work was done in the Materia Medica Laboratory of the University of Edinburgh. Some idea of the amount of labor performed may be gathered from the statement that, in all, four hundred and ninety-two experiments were made. Only those who have undertaken investigations of the character we are considering can appreciate the amount and quality of the work which that statement implies.

The method of experimentation was alike simple and satisfactory. First, the minimum lethal dose for rabbits or dogs, as the case might be, of physostigmia and of atropia was determined by a series of preliminary experiments. This was done so accurately, that Dr. Fraser was able, by ascertaining the weight of an animal, to state in advance of experiment the precise minimum dose that would kill it. Having obtained this knowledge, the second step was to administer doses of physostigmia equal to minimum fatal ones, or in excess of them, and in combination with them to administer atropia. Thirdly, when recovery follows the administration of the agents together, the animal was allowed to recover completely from the effects of the experiment. As soon as complete recovery was established, the same dose of physostigmia that had previously been given with atropia, and from which the animal recovered, was repeated, but without atropia. In every such instance, the dose proved fatal. Such results warrant the conclusion of the observer, that, "therefore, when the administration of atropia prevented an otherwise fatal dose of physostigma from causing death, a perfect demonstration was obtained of the power of atropia to produce some physiological action or actions, that counteracted some otherwise lethal action or actions of physostigmia."

The experiments disclosed a number of interesting and instructive physiological facts. The minimum lethal dose of sulphate of atropia for rabbits was found to be 21 grains for every three pounds weight, or 7 grains per pound. Dogs are more susceptible to it than rabbits. Fifteen grains killed a dog weighing sixteen pounds—less than a grain to a pound. A man of the average weight of 150 pounds is most sensibly affected by $\frac{1}{30}$ of a grain, and would probably be killed by $\frac{1}{2}$ of a grain of sulphate of atropia. This makes a fatal dose for a human being $\frac{1}{300}$ of a grain per pound weight; and $\frac{1}{4500}$ of a grain per pound weight, a dose that produces most unequivocal effects. The scale of fatal doses is 7 grains per pound for rabbits, 1 grain per pound for dogs, and $\frac{1}{300}$ of a grain per pound for man. What a curious field for speculation and investigation these facts disclose. Rabbits do not tolerate physostigmia as they do atropia; the minimum lethal dose for them of the extract of physostigmia being 0·4 of a grain per pound weight, or 1·2 of a grain for a rabbit weighing three pounds. Another curious phenomenon is the range of counteraction. Atropia counteracts in rabbits the lethal action of physostigmia only within certain limits, both of dose and time. Not more than three and a half times the minimum lethal dose of the latter can be antagonized by the former; that is, a rabbit weighing three pounds will not be killed by a quantity of the extract of physostigmia varying from 1·2 grains to 3·5 grains, provided an appropriate amount of atropia is also administered. More than 3·5 grains cannot be antagonized. The limits of the counteracting doses vary slightly, as one agent is given simultaneously with the other, or five minutes before or five minutes after the other. In like manner, it was shown that if too little or too much atropia is given for a definite quantity of physostigmia, death will not be prevented. Thus, a quantity of the sulphate of atropia varying from $\frac{1}{20}$ of a grain to 3·3 grains will prevent the lethal action of three grains of extract of physostigma; but less than $\frac{1}{20}$ of a grain and more than 3·3 grains will not do so.

The range of time relation is not less curious or less important than that of doses. "The fatal effect of one and a half times the minimum lethal dose of physostigmia (3 grains of the extract) can be prevented by any dose between $\frac{1}{20}$ of a grain and $2\frac{1}{10}$ grains of sulphate of atropia, if it be administered within ten minutes afterwards; and by any dose between $\frac{3}{10}$ of a grain and one grain of sulphate of atropia, if it be administered within fifteen minutes afterwards." Beyond this interval, successful antagonism does not occur. Another fact, not less extraordinary than inexplicable at present, which Dr. Fraser's experiments have brought to light, is this: a non-fatal dose of physostigmia combined with, or rather given simultaneously with a non-fatal dose of atropia, will be fatal. This is very odd, when we remember that if the doses of the agents are increased a fatal result is prevented.

There are other curious phenomena, described in this monograph, which it would be pleasant to mention and discuss, but our space forbids it. We must refer the student of physiological therapeutics, who is interested in these most fascinating inquiries, to the original work. Its concluding paragraph forms an appropriate conclusion to this imperfect notice. Speaking of the way or mode by which atropia counteracts the lethal action of physostigmia, the author says: "In presence of the many obvious proofs to the contrary contained in this paper, I have considered it superfluous to enter into any discussion of the possibility of this counteraction being the result either of some chemical reaction between atropia and physostigmia, or of an increased rapidity in the elimination of the one substance produced by the action of the other. The conditions of the experiments, and the symptoms that were observed, render it certain that atropia prevents the fatal effect of a lethal dose of physostigmia by so influencing the functions of certain structures as to prevent such manifestations from being produced in them by physostigmia, as would result in death The one substance counteracts the action of the other; and the result is a physiological antagonism so remarkable and decided, that the fatal effect even of three and a half times the minimum lethal dose of physostigmia may be prevented by atropia. The existence of such an antagonism encourages the hope that the power of directly counteracting disease is far from unattainable, and it supplies a strong incentive to efforts designed to determine the conditions of disease and the actions of remedies with an exactitude sufficient to show how the remedial action may be applied as a counteracting influence to the diseased condition." E. H. Clarke.

Clinical Observations on the Dementia and the Hemiplegia of Syphilis. By M. H. Henry, M.D., New York: F. W Christern. 1872. Pp. 15.

This excellent little article is a reprint from the *American Journal of Syphilography and Dermatology* for January, 1872, and emanates from the prolific pen of the energetic editor of that journal. It comprises accounts of two interesting cases of disease of the brain originating in syphilis. In these days of Contagious Diseases Acts, our knowledge of the varied manifestations of the syphilitic poison should keep pace with the increasing general interest in the subject, and this knowledge can only be attained by careful study of honest and accurate clinical observations. We would particularly call attention to Dr. Henry's most just views with regard to very large doses of iodide of potassium. We are confident that many patients linger uncured for months, if not years, taking small doses of the drug the whole time and that without marked benefit, who might have been speedily restored to health by a bolder and more energetic course of treatment. W.

Fireside Science. By James R. Nichols, A.M., M.D. New York: Hurd & Houghton. 1872. Pp. 283.

This volume includes a series of popular scientific essays upon subjects connected with every-day life. Most of them have appeared before in the *Boston Journal of Chemistry*.

The book is another addition to a class of works whose aim is to interest the general reader, and at the same time to convey, in a popular form, scientific facts relating to subjects which are constantly brought before the notice of even those who claim to care nothing for anything scientific. There are, also, several chapters containing a great deal of information on subjects about which little is generally known; not, however, because the public feel no interest in the subjects alluded to, but because they are rarely to be found in books intended for popular use. The chapters on "The Lost Arts," "Diamonds and Diamond Cutting" and "Coal Mines," are sure to convey, in a small compass, many facts, both novel and interesting. The book is intended for non-scientific readers, and to all such we can recommend it as well deserving a place in their libraries. R.

Practical Lessons in the Nature and Treatment of the Contagious Diseases. By JOHN MORGAN, M.D., F.R.C.S., Surgeon to Mercers Hospital and to the Westmoreland Lock Hospital, Dublin; Professor of Surgical and Descriptive Anatomy, Royal College of Surgeons, Ireland, and member of Council, &c. &c. London: Baillière, Tindall & Cox. 1872. Pp. 335.

THE *rôle* of the critic is not often spread with honey, and where an author is so—

> "Armed on with titles as Briareus armed"

so overwhelmed with honors as Tarpeia with bracelets, &c., or the Prussian Bureaucracy with red eagles of the third class, the critic feels a little like a mousing owl hawking at the eagle towering in his pride of *place.* Still, *Fiat Justitia, Magna est Veritas,* &c., and if any one wishes to inspect a thoroughly Hibernian, rambling, helter-skelter, ungrammatical, inconsistent and illogical exposition of the merits of the under dog in the syphilographical contest; a mass of non-objective observations of an apparently credulous inexperience plus a hodge podge of the defunct theories of the past and of the fœtal ones of the future, *ana, partes œquales;* wretchedly bound and full of misprints and other errors, we trust typopraphical; then, but not till then, would we commend this volume to his *leisure* hours. Otherwise, *cave canem;* avoid this (Irish) bull!

Rigby's Obstetric Memoranda. Fourth Edition, Revised and Enlarged. By ALFRED MEADOWS, M.D. &c. Philadelphia: Lindsay & Blakiston. 1872. Pp. 104.

Memoranda of Poisons. By the late THOMAS HAWKES TANNER, M.D., F.L.S. Third Edition. Philadelphia: Lindsay & Blakiston. 1872. Pp. 155.

IF such miniature morsels in medical literature are ever commendable, these handbooks are certainly of the best. Both of them bear the names of very eminent authors, and the evident intention of these authors has been to give in these little works the largest amount of instruction in the fewest possible words. The titles of the books indicate the true character of the contents; the reader will find "things to be remembered," presented concisely and with a concentrated brevity which is unsatisfactory to the true student.

The practical utility of such books, while it stands as the excuse for their brevity, is still mythical. The obstetric student or practitioner would hardly be satisfied with the four little pages of instruction concerning the forceps; and the memoranda of poisons give nothing to be remembered which larger text-books have not already given, and which every student should have committed before he begins practice, while to the practitioner himself this small hand-book would hardly serve in an emergency, unless he took the precaution to have a copy of the book always with him for ready consultation in time of need.

Both books are good, but they are not good enough.

The Urine and its Derangements. By GEORGE HARLEY, M.D., F.R.S. &c. Philadelphia: Lindsay & Blakiston. 1872. Pp. 334.

DR. HARLEY'S book could hardly fail to interest the most casual reader. The style is original, direct, practical, often incisive and epigrammatic. Originally designed as lectures, the composition admits of a certain degree of dogmatic force, not ordinarily found in medical text-books, so that, at intervals, expressions are met with that would serve as medical aphorisms.

The method of the author is pleasing and to a certain degree original. After some general observations on the nature of urine, its composition as variously influenced by food, drink, medicine and disease, the individual elements of urine are examined in their chemical, physiological and pathological relations.

The latter half of the work is devoted to two topics, diabetes and albuminuria; and so fully and intelligently has the author discussed these important subjects in all their bearings that, by the general medical reader, these closing chapters will, we think, be deemed the most valuable portion of the book.

Dr. Harley has presented the important subjects of urinary physiology and pathology so well that one is tempted to overlook a few short-comings which grow out of the fact that the lectures, of which the book is a compilation, were delivered some years ago; and these points, which more recent investigations by chemists have improved upon, will undoubtedly be amended in future editions.

The book is published in the familiarly presentable style of the Philadelphia publishers, and is embellished with numerous wood-cuts. We miss the usual table of contents, an omission almost cancelled by a very full index.

Science Primers; Chemistry. By Prof. Roscoe, F.R S.
Physics. By Prof. Balfour Stewart, F.R.S. New York: D. Appleton & Co. 1872. Pp. 103 and 135.

Two very neatly prepared little volumes in limp cloth in which the authors state the fundamental principles of their respective sciences in a manner suited to pupils of an early age. In fact, both books have a laudable object in view; less that of serving as text-books, but rather as leading strings to direct the youngest steps toward the great truths of science which they can more fully develope in maturer years. The names of the authors are a sufficient guaranty of the value of the books.

The Irritable Bladder; its Causes and Treatment: including a Practical View of Urinary Pathology, Deposits and Calculi. By Frederick James Gant, F.R.C.S. Third Edition, Revised and Enlarged. Philadelphia: Lindsay & Blakiston. 1872. Pp. 221.

Perhaps the author's observation in his preface, that the fact "that another edition of this treatise has been called for, long before he could find time to supply it, may be taken as a fair indication of its acceptance as a guide to a large class of diseases" is justified, but we have failed to discover the intrinsic attractions which could create such a gratifying demand for the book. The work appears to us, throughout, from its peculiar title to its final page, a continued disappointment. The author has collected a great amount of scientific information within this small volume, and much of it is, indeed, original and valuable; but the plan of the book is such that in its want of system it really fails of its purpose "to meet the requirements of all those who, whether as clinical students or being actively engaged in practice, may find it convenient to have at hand a ready guide." The student will not find here the systematic and concise teaching which he requires, and the "busy practitioner" can hardly feel gratified with a rhetorical style which, by its rambling obscurity, often conceals its meaning, and frequently needs second perusal to be clearly made out. As a book of reference, its value is compromised by the repeated digressions in some parts, and by unsatisfactory abridgment in others. Thus, nearly a fourth of the work is devoted to conditions having only the remotest connection with irritable bladder, such, for example, as the discussion of constitutional causes of local disease in general, the pathology of hysteria and so on, while the treatment of calculi is disposed of in eight pages.

The author states that he has purposely omitted illustrative cases, preferring to "*imperceptibly* express their results in rules and particulars of treatment," rather than extend his work.

The imprint of the book is English, and is, of course, excellent.

Among the sins of omission, is the absence of an index, a guide especially requisite in this book.

The Correct Principles of Treatment for Angular Curvature of the Spine. By Benj. Lee, A.M., M.D. Philadelphia: J. B. Lippincott & Co. 1872. Pp. 77.

This contribution to the pathology and treatment of disease of the spine is essentially the same in its general character as the monograph published some years since by Dr. Lee and at present out of print. It must be particularly gratifying to the author to state that he has been unable to improve in the slightest degree on the principles set forth in the first essay and only immaterially on their practical application. Such confidence must enable a writer to express himself with almost dogmatic authority; and we find that, after a full discussion of the pathological changes in the vertebræ which constitute the disease, the mechanical treatment for the redressing of distortion and the relief of pressure is comprised either under the form of antero-posterior support with the fulcrum of the apparatus adjusted over the oblique processes of the diseased bones, or as modified suspension whereby the extension of the spine is effected by making the weight of the patient's body the extending force, the point of departure of the power being a fixed point to which straps, adjusted to the chin and occiput, are attached.

The book is readable and instructive.

Clinical Charts. By Wm. W. Keen, M.D., Fellow of the College of Physicians of Philadelphia, &c. Published by Turner Hamilton, No. 106 South Tenth St., Philadelphia, Pa.

Diagrams in outline of the human form and subjacent skeleton, designed to furnish means for the "graphic delineation of diseases and injuries * * * useful in private practice and also especially in shortening the work of our busy hospital and clinical teachers and students. By means of them, the various physical signs in thoracic and abdominal diseases, relative measurements, deformities, fractures, tumors, cutaneous diseases and many cases of surgical disease, can be delineated in a moment."

Anyone who has attempted to keep current notes of his cases will appreciate the exact value of such charts. They will not supersede verbal descriptions and are not adapted to universal use; they may even grossly misrepresent, from differences in proportionate measurement of subject and chart. But, to save time during an examination, especially if afterwards used to point or accompany a verbal description, they are positively useful, and lead to a degree of accuracy of observation of location not cultivated by the mere habit of writing records. The separable parts measure 5½ x 3¼ inches, and can be trimmed to 4⅝ x 3; hence, can be—and this is essential—easily pasted into a common pocket record-book.

A chart for the respiration, pulse and temperature is included, but does not belong to the same category of usefulness. It is enough, moreover, to say of it that, without a degree of trouble fatal to its employment, respirations can be noted only by fives, pulses by tens and temperature by whole degrees, and that its month contains but twenty-five days! S.

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Natatorial Hardihood.—An attempt has been recently made by an English professional swimmer to swim across the English Channel from Calais to Dover, forty miles, in ten hours. He remained in the water one hour and ten minutes and swam over seven miles, but then became so benumbed and prostrated by the low temperature of the water that he was obliged to abandon his attempt. The *Brit. Med. Journal*, in commenting upon this attempted feat, believes it to be impossible, unless some very ingenious artificial means is devised for keeping the heat of the body at its normal point.

Medical and Surgical Journal.

Boston: Thursday, September 26, 1872.

EXPERT TESTIMONY.

There is probably no position in the experience of a medical man more ungracious or more trying to his dignity and his good judgment than that to which he is sometimes summoned as an expert in legal trials. It tests his coolness, his firmness, his honesty and his moral and mental force as hardly another emergency in all his professional career is likely to. It demands of him unusual nicety of discrimination, extreme breadth of thought, and an impartiality as uncompromising as justice itself. It imposes on him the necessity of imparting what he knows in unusual and untechnical methods—*breviter, suaviter, caute.* It exacts all the accuracy of observation and of description which the ordinary witness to the facts must possess, and it superadds the demand for intuitive power and for deductive ability in the highest degree.

It is safe to assert that these conditions are practically never fulfilled on the part of medical men. On the contrary, medical expert witnesses, in the present order of things, generally accomplish little to forward the cause of justice, either through their impartiality, their mature judgment or their power of telling what they know so that others may also know it clearly. Scarcely a trial in the civil or the criminal courts occurs, requiring the assistance of a medical expert, that does not bring into unenviable notoriety, not the medical witness alone, but the medical profession which he represents. It is a scandal and a reproach to all decent physicians that, by the methods at present employed to fortify partisan interests in courts of law, the medical profession should allow itself to be so disreputably compelled to prop up one-sided justice. We need not cite a single case of all those which recently, in this country, have reflected such discredit on the profession, or specify in detail any of the notorious instances, on the one hand, of the absolute incompetency of expert testimony, so that innocent men are brought to the foot of the gallows to be saved from execution only "by the interposition of Providence"; or, on the other, of experts so partisan and so forgetful of their position that they make the witness-stand the vantage ground for the recrimination of their fellows and for the indulging of professional acrimony.

This state of things grows out of the ignorance of medical men in matters pertaining to medical jurisprudence, and out of a legal system which permits the employment of expert testimony in a partisan way, no matter how serious the issue at stake. It will continue until more systematic instruction is given in the medical schools in the practice of legal medicine, embracing technical study in the law as well as the medicine of the subject. It will more especially continue until some amendment is made in the prevailing system of summoning medical witnesses theoretically to testify as experts, but in reality to give opinions as medical advocates.

Many suggestions have been made at various times, with a view to correct this latter evil. Any one of the schemes appears an improvement on the present method of examining medical experts. One of these proposed methods is that all such witnesses shall be examined by the presiding judge, so that the testimony elicited should, at least, approximate to impartiality. Prof. Haughton, in his address before the recent Convention of the British Medical Association, urged the feasibility of a plan by which a medical expert is summoned for each side, and these two unite in the choice of a third neutral, so that all the medical testimony may be taken, or its merits determined, by the three, whose united opinion shall be authoritative. Still another method proposes the appointment of a medical expert-general, selected for acknowledged ability, and whose duty it shall be to give expert opinions in any case demanding such aid. His position would be allied to that of the judge, in point of impartiality and freedom from partisan motives; he should be as uncompromising as that officer and as far removed from the equivocal influences or the tempting collusions of either side in a case on trial. Such a position would be commensurate with the vast responsibility theoretically resting on the medical expert.

The time cannot too quickly come when, because of the distinctive character of medical expert testimony, involving as it does such peculiar knowledge and carrying such important weight in deciding the issues of legal trials, medical witnesses shall be excepted from the regulations and customs to which ordinary witnesses are subject.

A BOARD OF HEALTH FOR BOSTON.

It gives us very great pleasure to record the progress which has been made, in the last few weeks, toward the institution in this city of an independent and competent Board of Health. It is a reform about which, at present, there seems to be scarcely any difference of opinion. The daily press has not withheld the important influence it was able to exert on the public mind, and, as the result of the agitation growing out of the wretched administration of sanitary affairs the past season, the people have taken hold of the matter and, with a unanimity which cannot be misinterpreted, a new order of things is demanded immediately. The petition has been very numerously signed, the eagerness with which the popular demand is made attesting the importance of the measure proposed and an emphatic popular appreciation of the evils to be corrected.

It is especially noteworthy that the project for a Board of Health has received the most hearty approval of the medical profession in this city, and that the petition which has been circulated has been signed by physicians almost without a word of protest. They, of all people in the community, recognize the necessity for a radical change in the affairs pertaining to public health.

This universal call for such a change will inevitably be met very soon, since the present city government cannot well afford to let the opportunity pass; and the importance of an early organization of a new

Board is evident, in view of the unusual prevalence of smallpox in the city, imperatively requiring, as is shown by the communication of the City Physician to the Board of Aldermen the present week, immediate measures for the proper management of the epidemic, in order, also, that the winter months may be used for the initiation and perfecting of a system of sanitary administration for service next summer, without the defects and delays incident to novelty and inexperience. We have confidence that in the selection of the men who will comprise the new Board, a good portion of the efficient and expert strength of the body should be derived from the medical profession. In this belief, we trust not only that the best men in the profession, the men best fitted for the place may be chosen, but that the place itself may be made such that the best men may not find it to their disadvantage to accept it and its great responsibilities.

QUARANTINE IN RUSSIA.

The *Medical Times and Gazette* of Aug. 24th contains some editorial comments on the report of M. De Valcourt, who has recently been visiting the Russian sea-port cities with a view to inspect the practical operation of the quarantine rules in that country. The observations are so pertinent to the quarantine regulations in this country, and supplement so well the editorial notes on the subject which we made in the last number of the Journal, that we are tempted to transcribe some of the more important conclusions.

M. De Valcourt reports particularly concerning Odessa, where cholera has recently prevailed with considerable severity. But in spite of the excellent quarantine arrangements made in times past, embracing costly buildings, well-ordered hospital accommodations and a numerous and well-paid force of attendants, the quarantine of inward-bound ships is practically abandoned because it has been found essentially useless; vessels having cholera on board are purified and the patients are removed to the quarantine hospital, but the ships are then allowed to proceed without further delay. Since 1870, the quarantine buildings have not been employed, except for the reception this year of four sailors, who died of cholera.

This virtual abandonment of the quarantine at Odessa grows out of some such state of things as was alluded to in our own observations. "While there are, on the average," it is remarked, "but thirty passengers who disembark at the port of Odessa, subject, if need be, to the rules of quarantine, fully four hundred arrive by rail, free to enter the city without any obstacle. Modern modes of communication render all systems of quarantine entirely illusory—the very persons who arrive most rapidly from the seat of contagion being those who are exempted!"

In conclusion, M. De Valcourt remarks, after stating that increased railway facilities across the Russian border will shortly bring the adjacent countries into close communication, with freer transportation of infection: "The rapidity of inter-communication and the large number of travellers render the isolation of centres of infection in Europe impossible. The quarantine system has seen its day; and it is now only urgent to insist, but that with redoubled vigilance, upon the adoption of hygienic measures in all centres of population."

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Occupation in the Causation of Skin Disease.—Mr. Balmanno Squire, of London, an acknowledged authority on skin disease, affirms that the majority of the cases are found among book-binders, dyers, tanners, hatters, weavers, leather-cutters, fur-workers, all of whom have much to do with animal products.

The Report of the British Army for 1870, the last published, states that of 38,408 recruits examined for the army during that year, 12,935 were rejected, a ratio of 336.7 per thousand. It also states in regard to the health of European soldiers in the Indian army, that for the whole number 55,380, in the service that year, there were 89,898 hospital admissions and 1,266 deaths, which is in the ratio of 1,623 admissions and 22.86 deaths per thousand.

The Month.

Canada Medical Association.—The annual convention of this body was held in Montreal, Sept. 11th and 12th inst. An address by the President, Dr. Sewill, of Quebec, was read, and the rest of the session was devoted to the presentation of papers on medical and scientific subjects, and to discussions. Among the important matters brought forward for the deliberation of the association, was the proposed Medical Act for the regulation of medical practice in the Dominion. St. John, N. B. was selected as the place of meeting for the next year.

A Bequest of 10,000 francs has been made by M. Falsch to the Academy of Medicine of Paris, for the purpose of founding a prize on mental and nervous diseases.

Among The Candidates who recently passed the anatomical examination at the university of Berlin, with especial approbation, was a Japanese student, a son of the private physician of the Mikado.

Dr. Schweinfurth, the renowned explorer of Central Africa, is about to make another expedition to that country in the especial interest of botany. His chief financial support is given him by his brother, a merchant of Riga.

The Sanitary Condition of the city of Berlin is at present very far from what it should be, and the city is very unhealthy. This state of things is owing partly to the situation of the city, built as it is on a level sandy plain, and partly to the overcrowding of the population due to its very rapid growth since the last war with France.

Death Certificates.—The loose way in which dispensary and hospital physicians give death certificates, has received a well-merited check in London. A physician there has been held in £300 bail for trial, for having given a death certificate for a patient, whom he saw for the first time after death. Many American physicians might take a seasonable hint from this.

A Useful Form of Disinfectant has been recently brought into use in England, namely, sawdust soaked in a saturated solution of carbolic acid. It is convenient for many purposes, cheap, easily prepared, and not liable to be swallowed accidentally, as ordinary liquid disinfectants are.

A Nut for Vital Statisticians.—During the recent strike of the scavengers of Edinburgh, the mortality of that city fell to 15 per 1000, far below the ordinary average.

A New Green Pigment, as brilliant as that made of arsenic, but free from its poisonous qualities, it is claimed can be made by mixing 20 parts oxide of zinc with 1 of sulphate of cobalt into a thin paste with water, and then exposed to a red heat.

Death Under Bichloride of Methylene.—A patient recently died at the Bath United Hospital while under the influence of the Bi-chloride of Methylene given for the purpose of reducing a dislocation of the shoulder. A post mortem showed the heart to be large and flabby, but not otherwise diseased.

Prof. Virchow has been chosen dean of the Medical Faculty in Berlin, and Prof. Gneist is the new Rector Magnificus.

Relation of Syphilis to Insanity.—Dr. Mildnen, director of the Lunatic Asylum in Klosternenberg, Austria, states that of 5,529 patients received at that institution during the period of fourteen years, in only seven cases, or 1. 2 per cent., could the occurrence of insanity be traced as due to syphilis.

Deaths Under Chloroform.—A patient recently died at the Manchester Royal Eye Hospital while chloroform was being administered previous to an intended operation for cataract. A post mortem showed a fatty heart.

Dr. Asa Wheat of Canaan, N. H., on Aug. 24th, 1872, gave his wife chloroform for the extraction of teeth; his brother, a dentist, had pulled three, when the patient became faint, and in spite of every effort made to revive her, died in a few moments.

German War Losses.—According to a statement prepared for the Statistical Congress at St. Petersburg, the German armies lost during the late Franco-German war, 40,881 by death. Of these, 17,527 fell in battle, 10,710 died of wounds, 316 died of accidents, and 30 by suicide. Dysentery carried off 2,000, typhus fever 6,595, gastric fever 159, small pox 261, inflammation of lungs 500, other acute diseases 521; phthisis 529, and other chronic diseases 249. Sudden death 94. Nature of death not given in 556 cases, and cause of death not stated in 419 cases. Number missing, 4,009.

Overcrowding.—According to the recent reports of some of the district medical officers in London, the overcrowding of the population in the tenement houses is something fearful. In one room in Whitechapel the amount of air allowed each person was only 54 cubic feet, and one woman in Westminster, who kept a low lodging house, stated that in three rooms she lodged no less than 92 persons.

The Administration of Insane Asylums.—This matter has had unusual prominence in the public mind during the past summer. The Bloomingdale Asylum case is fresh in every one's memory. Still more recently, the Ward's Island Insane Hospital of New York, has attained an unenviable notoriety as the scene of inhuman abuses on the part of a cruel attendant, whereby two of the patients lost their lives. It is not anticipated that any influence of the epidemic of asylum abuses will extend in this direction, but at a time when the matter of hospital superintendence is being so freely ventilated, no apology is deemed necessary for the following extracts from a very valuable work, a new edition of which has just appeared,—"The History of the Massachusetts General Hospital," by the late N. I. Bowditch, who was for a long time one of the trustees of the institution. The extracts are contained in the revisions made by the Rev. Dr. Ellis, and show some features in the management of the McLean asylum, which are of seasonable interest:—

So far as the method and practice of this asylum are concerned, it may be said that all of its successive superintendents, disapproving the use of drugs for subduing excited patients, and believing that a sole reliance upon the muscular force of the attendant would be either impracticable or otherwise objectionable, especially as being most irritating and offensive to the patients, have reduced the use of physical restraining appliances to the minimum.

A report made to a committee of the trustees by Dr. Jelly, on several subjects relating to the conduct of the asylum, shows a total of sixty-one out of two hundred and fifty-three persons who were under restraint either twenty-four hours, or one night at least, during 1871. "This includes all the habitual restraint. Occasionally a patient wears the camisole or mittens for an hour or two only, on account of some special outburst of violence, which is not mentioned in the records."

As to the restriction upon interviews with friends of the patients from outside the asylum, who might wish to see their condition and apartments, popular prejudices have often gone the length of assuming that our gentle and wise superintendents exercise the functions of those who have prisoners of State or convicts under their charge, with whom they can positively prohibit all intercourse. It is enough to say that no such prerogative is granted or exercised at the asylum to or by those who have the oversight of it. Recently, of the whole number of patients in the asylum—being 167—the friends of 142 of them could and did visit them at their pleasure. Of course the friends of the chronic demented very rarely wish to see them. Only twenty-five of the whole number of the patients were pronounced by the superintendent as in a condition to render visits from friends, for a time, unadvisable. In no single case and under no circumstances is the nearest friend or guardian, having personal rights, precluded from an interview with a patient, or prevented from removing him or her at pleasure. Of course there are cases in which, in the exercise of his judgment, and as a prime condition of qualification for his high trust, the superintendent will strongly advise, perhaps remonstrate, against allowing an interview between a patient and one who has a right to ask for it. . . .

As to the restriction upon the correspondence between patients and friends outside, there is misapprehension here, also, which is made to exaggerate popular prejudice. The figures on this point will be most satisfactory. On the 28th of May, 1872, there were in the McLean asylum, as patients, 77 males and 101 females, in all 178; of these, 53 males and 60 females, in all 113, never wish to write; 21 males and 34 females, in all 55, write when they wish, and receive letters,—more than half of these not having their correspondence subjected to any prudential oversight whatever. Of those from whom the means of correspondence are witheld there are but three males and seven females, in all ten. The restriction in these very few cases is imposed for one or both of the two very sufficient reasons, either that it would harm the patient for whom there is hope of cure, to yield to the excitement of putting delusions and fancies upon paper, or that the morbid communications which they might write would be misleading and harrowing to friends. Reasons there are also, in some of these cases, for leading the friends of patients to enjoin extreme caution on the officers of the asylum as to the exchange of letters with objectionable correspondents, while they are also earnestly desirous that no letters from the patients be written to themselves.

Medical Miscellany.

Dr. David P. Smith, of Springfield, has been appointed surgeon in the regular army, with the rank of lieutenant-colonel.

Mr. Poland, of Guy's Hospital, an eminent London surgeon, died Aug. 21st.

It is stated by the *Freeman's Journal* that Dublin is in the worst sanitary condition with the one exception of pure water, of any city in the British Empire.

The Advance of the Cholera.—New York specials from London state that there is no abatement to the spread of cholera in Roumania. The nature of the plague is epidemic in the extreme, and it is feared that it will spread over the entire country. Ten thousand have already died from the disease.

In North India, the cholera is making fearful ravages. In the Roman Catholic College at Agra, in five days, 82 boys were attacked, of whom 35 died. The disease also rages among the British troops in India.

Smallpox is decreasing in London. There were only 15 deaths from that disease for the week ending August 17th, which was less than for any week since October, 1870.

The Importation of preserved meat from Australia into England is assuming very great importance. In 1871, no less than 1,185,300 lbs. of this meat, valued at over $25,000,000, were imported, and it is believed that the amount will be at least trebled the present year.

The Next Meetings of the British Medical Association are to be held at Bradford, in September, 1873, and at Belfast, in 1874. Dr. Jas. P. Joule is the new President elect.

Artificial Eyes.—A French paper gives a detailed account of the manufacture of false eyes in Paris, from which the curious fact appears that the average sale per week of eyes intended for the human head amounts to 400. One of the leading dealers in this article carries on the business in a saloon of great magnificence; his servant has but one eye, and the effect of any of the eyes wanted by customers is conveniently tried in this servant's head, so that a customer can judge very readily as to the appearance it will produce in his own head. The charge is about $10 per eye. For the poor there are second-hand visual organs, which have been worn for a time and exchanged for new ones; they are sold at reduced prices, and quantities are sent off to India and the Sandwich Islands.

The British Med. Journal says that Mr. Holloway, of pill and ointment reputation, is about to erect at his own expense a middle class asylum at Virginia Water. The asylum will cost from £70,000 to £100,000, and will accommodate two hundred patients. It will be maintained for a year by Mr. Holloway, after which it is expected to be self-supporting, and will be handed over to the management of trustees.

Designs have been drawn for the new hospital to be erected in Worcester, which provide for a front of 296 feet, arranged with a centre building 60 by 62 feet, with a tower 14 feet high, and wings 60 by 152 feet, with towers 80 feet high, the whole costing $300,000.

Eight Children at a Birth.—On the 21st of August, Mrs. Timothy Bradlee, of Trumbull County, Ohio, gave birth to eight children—three girls and five boys. They are all living, and are healthy but quite small. Mr. Bradlee was married six years ago to Eunice Mowery, who weighed 273 pounds on the day of her marriage. She has given birth to two pairs of twins, and now eight more, making twelve children in six years. Mrs. Bradlee was a triplet, her mother and father being twins, and her grandmother the mother of five pairs of twins.

Mrs. Peter Charron, of Ware, died a few days ago, after twenty-six years of married life, during which time she had twenty-two children, all at single births.

Pamphlets Received.—Transactions of the Medical Society of the State of Pennsylvania at its twenty-third annual session, published by the society. Pp. 263.

Erratum.—On page 181, line 4, for "feels" read *falls*. On page 183, line 39, for "151" read 150.

Deaths in sixteen Cities and Towns of Massachusetts, for the week ending Sept. 14, 1872.

Cities and Towns.	*No. of Deaths.*
Boston	188
Charlestown	12
Worcester	29
Lowell	30
Milford	9
Chelsea	9
Cambridge	22
Salem	14
Lawrence	12
Springfield	8
Lynn	22
Fitchburg	3
Taunton	4
Newburyport	12
Somerville	11
Haverhill	6
	391

Prevalent Diseases.

Cholera Infantum	90
Consumption	44
Dysentery & Diarrhœa	30
Typhoid Fever	24

Seven deaths from smallpox occurred in Boston, and one in Charlestown.

George Derby, M.D.,
Secretary of State Board of Health.

Deaths in Boston for the week ending Saturday, September 21, 153. Males, 80; females, 73. Accident, 2 apoplexy, 1—aneurism, 1—bronchitis, 2—inflammation of the brain, 3—disease of the brain, 6—cyanosis, 1—cancer, 2—cholera infantum, 27—cerebro-spinal meningitis, 3—consumption, 26—convulsions, 2—debility, 3—diarrhœa, 9—dropsy, 3—dropsy of brain, 3—drowned 1 scarlet fever, 1—typhoid fever, 5—disease of the heart, 7—insanity, 1—intemperance, 2—disease of the kidneys, 2—disease of the liver, 2—congestion of the lungs, 1—inflammation of the lungs, 3—marasmus, 12—old age, 2—paralysis, 1—premature birth, 3—smallpox, 7—spina bifida, 1—spine disease, 1—tumor, 1—whooping cough, 3—unknown, 3.

Under 5 years of age, 80—between 5 and 20 years, 12—between 20 and 40 years, 25—between 40 and 60 years, 22—above 60 years, 14. Born in the United States, 112—Ireland, 28—other places, 13.